



Case 2002CH001 - International Application No. PCT/IB03/01350 amended claims of April 28, 2004

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CLAIMS

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1. A printing process showing no catalytic fading when a dyestuff or a dyestuff mixture of a first step and a second step are brought in contact on a substrate and having a common overlapping area on said substrate comprising in a said first step applying at least one dyestuff or a dyestuff mixture selected from the dyes of the formula (I) or (II) or (IIIa) or (IIIb) or (IV) or (V) or (VI) or (VII) or (VIII) or (IX) or (X)

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$$\begin{array}{c|c} & & & & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\$$

or

or

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or

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or

or

$$\begin{array}{c|c} HO_3S \\ \hline \\ O-Cu \\ \hline \\ O-Cu \\ \hline \\ O \\ \hline \\ CI \\ \\ \end{array} \begin{array}{c} SO_3H \\ \hline \\ SO_3H \\ \\ \end{array}$$

or

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$$(SO_3H)a$$

$$-SO_2NH_2)b$$

$$N - Cu - N$$

$$N - N$$

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with a having values from 4 to 0 and b having values from 0 to 4 with the proviso that the sum of $\mathbf{a} + \mathbf{b}$ does not exceed 4 and c has the values from 1 to 2.

or

$$\begin{array}{c|c} O & NH_2 \\ \hline \\ O & HN \\ \hline \\ O & HN$$

5 or

or

or

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dye composition (X) which is a mixture comprising the following three dyestuffs (Xa), (Xb) and (Xc)

61 parts of the dye (Xa)

28 parts of the dyes (Xb)

$$SO_3H$$
 SO_3H
 SO_3H

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and

9 parts of the dye (Xc)

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or

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and in said second step applying at least one dyestuff or a dyestuff mixture selected from at dye of the formula (I) or (II) or (IIIa) or (IIIb) or (IV) or (V) or (VI) or (VII) or (VIII) or (IX) or (X) or (XI) with the proviso that the dyestuff or mixture of dyestuffs in the second step is not the same dyestuff or mixture of dyestuff as selected in the first step.

- A printing process showing no catalytic fading when the dyestuff or a dyestuff 2. mixture of the first and the second and the third step are brought in contact on a 10 substrate and having a common overlapping area on said substrate according to claim 1 characterized in that in a third step a comprises applying at least one dyestuff or a dyestuff mixture selected from at dye of the formula (I) or (II) or (IIIa) or (IIIb) or (IV) or (V) or (VI) or (VII) or (VIII) or (IX) or (X) or (XI) with 15 the proviso that the dyestuff or mixture of dyestuffs in the third step is not the same dyestuff or mixture of dyestuff as selected in the first step or in the second
- A printing process showing no catalytic fading according to claim 1 or 2 3. characterized in that the printing process is a polychromatic printing process for 20 printing recording materials.

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- 4. A printing process showing no catalytic fading according to claim 1 or 2 charactericed in that hydroxy group containing substrates are printed.
- 5 A printing process showing no catalytic fading according to claim 1 or 2 5. characterized in that the printing process is a ink jet printing process
 - A printing process showing no catalytic fading according to claim 1 or 2 6. characterized in that the total content of salts is less than 0.5% by weight, based on the total weight of the dyes.
 - Use of composition for printing recording materials by the inkjet printing process, 7. comprising
 - at least one dye of the formula (I) or (V) or (VI) or (VIII), 1)
 - 2) water or a medium including a mixture of water and an organic solvent, an anhydrous organic solvent or a solid having a low melting point,
- Use according to claim 7 characterized in that the composition used according to 8. claim 7 has a total content of salts less than 0.5% by weight, based on the total weight of the dyes.
- Use according to claim 7 characterized in that paper and papery substrates, textile 9. fibre materials and plastic films and plastic transparencies comprising hydroxy groups are printed.
- Use according to any of the claims 7 characterized in that the printing process is a 10. ink jet printing process.